

What is claimed is:

1. A printing method comprising:

5 ejecting ink from ink ejecting sections provided in/on a  
movable print head to form dots;

performing at least either

printing with a first arrangement using inks arranged  
according to said first arrangement or

printing with a second arrangement using inks  
arranged according to said second arrangement

10 by changing the arrangement of inks supplied to each of said  
ink ejecting sections; and

printing, with one forward and return movement of said print  
head, a correction pattern for determining

15 a correction amount to be used for said printing with  
the first arrangement for correcting a misalignment  
between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
first arrangement and

20 a correction amount to be used for said printing with  
the second arrangement for correcting a misalignment  
between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
second arrangement.

30 2. A printing method according to claim 1, wherein:

inks of a first number of colors are used during said printing with the first arrangement;

inks of a second number of colors are used during said printing with the second arrangement;

5 at least either printing with the first number of colors using said inks of the first number of colors or printing with the second number of colors using said inks of the second number of colors is performed by changing the number of colors of inks supplied on a color-by-color basis to each of said ink ejecting  
10 sections; and

a correction pattern for determining

a correction amount to be used for said printing with the first number of colors for correcting a misalignment between a position at which dots are formed during a forward pass of said print head and a position at which dots are formed during a return pass of said print head that occurs during said printing with the first number of colors and

15 a correction amount to be used for said printing with the second number of colors for correcting a misalignment between a position at which dots are formed during a forward pass of said print head and a position at which dots are formed during a return pass of said print head that occurs during said printing with the second number of colors

20  
25 is printed with one forward and return movement of said print head.

3. A printing method according to claim 2, wherein:  
30 said correction pattern is printed by forming

a first sub-pattern during said forward pass of said print head and

a second sub-pattern and a third sub-pattern during said return pass of said print head

5 by ejecting ink from different ones of said ink ejecting sections;

a sub-pattern pair consisting of

said first sub-pattern and

one of either said second sub-pattern or said third 10 sub-pattern

is taken as the correction pattern for determining said correction amount to be used for said printing with the first number of colors; and

a sub-pattern pair consisting of

said first sub-pattern and

the other one of said second sub-pattern or said third 15 sub-pattern

is taken as the correction pattern for determining said correction amount to be used for said printing with the second 20 number of colors.

4. A printing method according to claim 3, wherein:

each of said ink ejecting sections has ink ejecting points that are arranged in a row in a direction perpendicular to the 25 direction of movement of said print head;

said first sub-pattern is formed during said forward pass by ejecting ink from ones of said ink ejecting points that are arranged in a central region of the one of said ink ejecting sections used for forming said first sub-pattern;

30 said second sub-pattern is formed during said return pass

by ejecting ink from ones of said ink ejecting points that are arranged in a region on one end of the one of said ink ejecting sections used for forming said second sub-pattern; and

5        said third sub-pattern is formed during said return pass by ejecting ink from ones of said ink ejecting points that are arranged in a region on the other end of the one of said ink ejecting sections used for forming said third sub-pattern.

5.        A printing method according to claim 2, wherein:

10        said printing with the first number of colors is performed by printing using at least light magenta ink and light cyan ink; and

      said ink ejecting sections used for printing said correction pattern is

15        an ink ejecting section used for ejecting said light magenta ink during said printing with the first number of colors and

      an ink ejecting section used for ejecting said light cyan ink during said printing with the first number of colors.

6.        A printing method according to claim 2, wherein:

      said printing with the second number of colors is performed using at least, among said ink ejecting sections,

25        two of said ink ejecting sections for ejecting magenta ink and

      two of said ink ejecting sections for ejecting cyan ink; and

      said ink ejecting sections used for printing said correction pattern are either

said two ink ejecting sections for ejecting said  
    magenta ink or  
    said two ink ejecting sections for ejecting said cyan  
    ink.

5

7. A printing method comprising:

    ejecting ink from ink ejecting sections provided in/on a  
    movable print head to form dots;

    performing at least either

10     printing with a first number of colors using inks of  
    said first number of colors or

    printing with a second number of colors using inks  
    of said second number of colors

15     by changing the number of colors of inks supplied on a  
    color-by-color basis to each of said ink ejecting sections; and  
    printing, with one forward and return movement of said print  
    head, a correction pattern for determining

20     a correction amount to be used for said printing with  
    the first number of colors for correcting a  
    misalignment between a position at which dots are  
    formed during a forward pass of said print head and  
    a position at which dots are formed during a return  
    pass of said print head that occurs during said  
    printing with the first number of colors and

25     a correction amount to be used for said printing with  
    the second number of colors for correcting a  
    misalignment between a position at which dots are  
    formed during a forward pass of said print head and  
    a position at which dots are formed during a return  
    pass of said print head that occurs during said

30

printing with the second number of colors,

wherein:

each of said ink ejecting sections has ink ejecting points that are arranged in a row in a direction perpendicular to the 5 direction of movement of said print head;

said correction pattern is made of

a first sub-pattern formed during said forward pass of said print head by ejecting ink from ones of said ink ejecting points that are arranged in a central region of the one of said ink ejecting sections used 10 for forming said first sub-pattern,

a second sub-pattern formed during said return pass of said print head by ejecting ink from ones of said ink ejecting points that are arranged in a region on one end of the one of said ink ejecting sections used 15 for forming said second sub-pattern, and

a third sub-pattern formed during said return pass of said print head by ejecting ink from ones of said ink ejecting points that are arranged in a region on the other end of the one of said ink ejecting sections used 20 for forming said third sub-pattern

by using different ones of said ink ejecting sections;

the correction pattern for determining said correction amount to be used for said printing with the first number of colors 25 is a sub-pattern pair consisting of

said first sub-pattern and

one of either said second sub-pattern or said third sub-pattern;

the correction pattern for determining said correction

30 amount to be used for said printing with the second number of colors

is a sub-pattern pair consisting of  
said first sub-pattern and  
the other one of said second sub-pattern or said third  
sub-pattern;

5       said printing with the first number of colors is performed  
by printing using at least light magenta ink and light cyan ink;  
          said ink ejecting sections used for printing said correction  
pattern is

10      an ink ejecting section used for ejecting said light  
magenta ink during said printing with the first number  
of colors and  
          an ink ejecting section used for ejecting said light  
cyan ink during said printing with the first number  
of colors;

15      said printing with the second number of colors is performed  
using at least, among said ink ejecting sections,  
          two of said ink ejecting sections for ejecting magenta  
ink and  
          two of said ink ejecting sections for ejecting cyan  
ink; and

20      said ink ejecting sections used for printing said correction  
pattern are either  
          said two ink ejecting sections for ejecting said  
magenta ink or  
          said two ink ejecting sections for ejecting said cyan  
ink.

25  
30      8.     A printing apparatus comprising:  
          a movable print head having ink ejecting sections for  
ejecting ink to form dots, wherein said printing apparatus:

is capable of performing at least either  
printing with a first arrangement using inks arranged  
according to said first arrangement or

printing with a second arrangement using inks  
arranged according to said second arrangement

5 by changing the arrangement of inks supplied to each of said  
ink ejecting sections; and

prints, with one forward and return movement of said print  
head, a correction pattern for determining

10 a correction amount to be used for said printing with  
the first arrangement for correcting a misalignment  
between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
first arrangement and

15 a correction amount to be used for said printing with  
the second arrangement for correcting a misalignment  
between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
second arrangement.

25 9. A computer-readable storage medium having a program  
recorded thereon, said program making a printing apparatus  
that has a movable print head having ink ejecting  
sections for ejecting ink to form dots and  
that is capable of performing at least either printing  
30 with a first arrangement using inks arranged

according to said first arrangement or printing with  
a second arrangement using inks arranged according  
to said second arrangement by changing the  
arrangement of inks supplied to each of said ink  
ejecting sections, and printing a correction pattern  
5 for determining a correction amount to be used for  
said printing with the first arrangement for  
correcting a misalignment between a position at which  
dots are formed during a forward pass of said print  
head and a position at which dots are formed during  
10 a return pass of said print head that occurs during  
said printing with the first arrangement and a  
correction amount to be used for said printing with  
the second arrangement for correcting a misalignment  
15 between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
second arrangement  
20 function to print said correction pattern with one forward  
and return movement of said print head.

10. A correction pattern for use with a printing apparatus,  
said printing apparatus being capable of performing  
25 at least either printing with a first arrangement  
using inks arranged according to said first  
arrangement or printing with a second arrangement  
using inks arranged according to said second  
arrangement by changing the arrangement of inks  
30 supplied to each of a plurality of ink ejecting

sections provided in/on a movable print head and for  
ejecting ink to form dots, each of said ink ejecting  
sections having ink ejecting points that are arranged  
in a row in a direction perpendicular to the direction  
5 of movement of said print head,

10 said correction pattern being used for determining  
a correction amount to be used for said printing with  
the first arrangement for correcting a misalignment  
between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
first arrangement and

15 a correction amount to be used for said printing with  
the second arrangement for correcting a misalignment  
between a position at which dots are formed during  
a forward pass of said print head and a position at  
which dots are formed during a return pass of said  
print head that occurs during said printing with the  
second arrangement,

20 said correction pattern comprising:

a first sub-pattern formed during said forward pass  
of said print head and  
a second sub-pattern and a third sub-pattern formed  
25 during said return pass of said print head,

wherein:

30 said correction amount to be used for said printing with  
the first arrangement is determined based on a sub-pattern pair  
consisting of

said first sub-pattern and

one of either said second sub-pattern or said third sub-pattern; and

5 said correction amount to be used for said printing with the second arrangement is determined based on a sub-pattern pair consisting of

said first sub-pattern and

the other one of said second sub-pattern or said third sub-pattern.